

In the Claims

1. (Currently amended) A method for the reduction of the volume of solid/liquid dispersion or suspension, said method comprising the steps of:

(a) providing a receptacle comprising at least one permeable or semi-permeable membrane;

(b) introducing said solid/liquid dispersion or suspension into said receptacle; and

(c) applying a mechanical force so as to substantially expel said liquid and compact the solid residue;

wherein ~~characterised in that the application of~~ said mechanical force comprises the application of pressure to said solid/liquid dispersion or suspension by means of at least one solid mechanical member, and wherein the magnitude of said pressure being increased during the process.

2. (Currently amended) The A method as claimed in claim 1 wherein said solid/liquid dispersion or suspension comprises a slurry of a solid material.

3. (Currently amended) The A method as claimed in claim 2 wherein said slurry comprises an aqueous slurry.

4. (Currently amended) The A method as claimed in claim 1 ~~any one of claims 1, 2 or 3~~ wherein said solid/liquid dispersion comprises a waste material.

5. (Currently amended) The A method as claimed in claim 4 wherein said waste material comprises a waste material generated in the nuclear industry.

6. (Currently amended) The A method as claimed in claim 1 ~~any one of claims 1 to 5~~ wherein said receptacle comprises a cylindrical container.

7. (Currently amended) The A method as claimed in claim 6 wherein said cylindrical container comprises a barrel.

8. (Currently amended) The A method as claimed in claim 1 ~~any preceding claim~~ wherein said permeable or semi-permeable membrane comprises a filter.

9. (Currently amended) The A method as claimed in claim 8 wherein said filter comprises a woven metal mesh material.
10. (Currently amended) The A method as claimed in claim 8 ~~any preceding claim~~ wherein said permeable or semi-permeable membrane is integrated into the surface of the receptacle.
11. (Currently amended) The A method as claimed in claim ~~10~~ 8 wherein said permeable or semi-permeable membrane is comprised in the base of said receptacle.
12. (Currently amended) The A method as claimed in claim 11 ~~any preceding claim~~ wherein said permeable or semi-permeable membrane is additionally comprised in the top and/or sides of said receptacle.
13. (Currently amended) The A method as claimed in claim 1 ~~any preceding claim~~ wherein said application of a mechanical force to substantially expel said liquid from said receptacle and compact said solid residue provides an increase in the pressure applied to said solid/liquid dispersion or suspension.
14. (Currently amended) The A method as claimed in claim 13 wherein said increase in the pressure applied to said solid/liquid dispersion or suspension is achieved gradually by the action of at least one solid mechanical member on said dispersion or suspension.
15. (Currently amended) The A method as claimed in claim 14 wherein said at least one mechanical member comprises at least one inflatable member located within said receptacle.
16. (Currently amended) The A method as claimed in claim 15 wherein said at least one inflatable member comprises at least one air bag.
17. (Currently amended) The A method as claimed in claim ~~15 or~~ 16 wherein said at least one inflatable member is inflated by the ingress of compressed air.
18. (Currently amended) The A method as claimed in claim 15 ~~any one of claims 15 to 17~~, wherein said at least one inflatable member additionally comprises at least one rigid member.
19. (Currently amended) The A method as claimed in claim 18 wherein said at least one rigid member comprises at least one base plate.

20. (Currently amended) The A method as claimed in claim 19 wherein said at least one base plate is comprised of metal.
21. (Currently amended) The A method as claimed in claim 1 ~~any one of claims 1 to 14~~ wherein said mechanical force is applied to the top of the receptacle.
22. (Currently amended) The A method as claimed in claim 21 wherein said mechanical force is applied by the action of a rigid member
23. (Currently amended) The A method as claimed in claim 23 wherein said rigid member comprises a piston or hydraulic ram.
24. (Currently amended) The A method as claimed in claim 23 wherein said rigid member is comprised of metal.
25. (Currently amended) The A method as claimed in claim 24 ~~any one of claims 22 to 24~~ wherein said rigid member includes holes or grooves adapted to further facilitate the egress of liquor from the system.
26. (Currently amended) The A method as claimed in claim 1 ~~any preceding claim~~ wherein the pressure applied to the solid/liquid dispersion or suspension is in the region of 5-200 bar.
27. (Currently amended) The A method as claimed in claim 26 wherein said pressure is in the region of 10- 50 bar.
28. (Currently amended) The A method as claimed in claim 26 ~~or 27~~ wherein an initial pressure in the region of 5-20 bar is applied to said solid/liquid dispersion, and said pressure is increased to a level of 100-200 bar.
29. (Currently amended) The A method as claimed in claim 1 ~~any one of claims 1 to 25~~ wherein a pressure of 300 bar is applied to achieve maximum compaction.
30. (Currently amended) The A method as claimed in claim 1 ~~any preceding claim~~ wherein further permeable or semi-permeable membranes are comprised inside said receptacle.
31. (Currently amended) The A method as claimed in claim 30 wherein said further permeable or semi-permeable membranes are provided by means of a plate filter.

32. (Currently amended) The A method as claimed in claim 31 wherein said plate filter comprises an internal cavity and surfaces comprising permeable or semi-permeable membranes.

33. (Currently amended) The A method as claimed in claim 31 ~~or 32~~ wherein said plate filter comprises a disc comprised of metal and having an internal cavity, wherein the top and bottom of said disc are permeable and comprise metal filter media.

34. (Currently amended) The A method as claimed in claim 30 ~~any one of claims 30 to 33~~ wherein means are provided for the removal of liquor which has been filtered through said further permeable or semi-permeable membranes.

35. (Currently amended) The A method as claimed in claim 34 wherein said means for the removal of said liquor comprise hoses which are attached to said plate filter such that the expressed liquor may be directed away from said internal cavity.

36. (Currently amended) The A method as claimed in claim 35 wherein said hoses comprise reinforced metal hoses.

37. A method for the reduction of the volume of solid/liquid dispersion or suspension, said method comprising the steps of:

(a) reducing the volume of said solid/liquid dispersion or suspension according to the method as claimed in any preceding claim; and

(b) compacting the receptacle by the application of a further mechanical force.

38. (Currently amended) The A method as claimed in claim 37 wherein said further mechanical force comprises very high pressure.

39. (Currently amended) The A method as claimed in claim ~~37~~ ~~or~~ 38 wherein said further mechanical force is applied by the direct mechanical action of at least one solid mechanical member.

40. (Currently amended) The A method as claimed in claim 39 wherein said at least one solid mechanical member comprises a hammer, piston or hydraulic ram.

41. (Currently amended) The A method as claimed in claim 37 ~~any one of claims 37 to 40~~ wherein a compaction force of several hundreds of tonnes is applied to achieve maximum compaction of the receptacle.
42. (Currently amended) The A method as claimed in claim 41 wherein said compaction force is 200-2000 tonnes.
43. (Currently amended) The A method as claimed in claim 42 wherein said compaction force is 1000-2000 tonnes.
44. (Currently amended) The A method as claimed in claim 37 ~~any preceding claim~~ wherein the residue is subsequently despatched for storage or disposal.
45. (Currently amended) The A method as claimed in claim 37 ~~any preceding claim~~ whenever applied to the treatment of Intermediate Liquid Waste in the nuclear industry.